REMARKS

Claims 1-34 were presented for examination and are pending. Claims 20-34 have been withdrawn. Claims 1-19 are rejected. Reconsideration is respectfully requested.

The 35 U.S.C. § 102 Rejections

Claims 1-5, 7 and 11-13 are rejected under 35 U.S.C 102(a) as being anticipated by Ruffner et al. The rejection is respectfully traversed.

The applicant's claim 1 recites: "A method for correcting height errors on a substrate, comprising *altering the density of a region* selected from the group consisting of at least a portion of said substrate and at least a portion of a coating on said substrate, *wherein an expansion or contraction of said region is produced* such that the height of said region changes by an amount needed to mitigate surface height error." (Emphasis added).

The reference is fully directed to a computer-based modeling and deposition method to enable lateral and vertical thickness control by scanning the position of the substrate with respect to the sputter target during deposition. The thickness profile of the sputter targets is modeled before deposition and then an appropriate scanning algorithm is implemented to produce a desired, radially-symmetric thickness profile. This reference fails to teach altering the density of a region, resulting in an expansion or contraction of the region to change the height of the region as recited in the present

claim 1. The reference fails to teach that the expansion or contraction results from a reaction selected from the group consisting of (i) interdiffusion and (ii) a chemical reaction of neighboring layers of a multilayer, where the reaction results in a net change in density, which results in a change in height of a surface of at least one layer of the multilayer, as recited in the present claim 4. The reference does not teach altering the density of a region by depositing thermal energy, e.g., as provided by a laser of the present claim 7, into the region. The reference does not teach altering density by depositing thermal energy with an excimer laser, as in the present claim 11. The reference does not teach that an expansion or contraction of the region is localized to at least one area delineated by spatial extent, as recited in the present claim 12. The reference does not teach that the region comprises pixels as recited in claim 13 or that the step of altering the density of a region is controlled as a function of time as recited in claims 14 and 15.

Therefore the rejection should be withdrawn.

The 35 U.S.C. § 103 Rejections

Claims 6, 8, 10 and 14-19 are rejected as being unpatentable over Ruffner in view of Liveasy et al. The rejection is respectfully traversed.

The reference is directed to <u>a method for curing spin-on dielectric films</u> utilizing electron beam radiation. The reference teaches that by adjusting the process conditions, such as electron beam total dose and energy, temperature of the wafer, and ambient atmosphere, the properties of the cured dielectric material can be modified.

There is no teaching of altering the density of a region by depositing thermal energy into the region, as recited in the present claim 6.

The reference does not teach the method of the present claim 10, wherein the step of altering the density comprises bombarding the region with atoms. The reference does not teach the method of the present claim 14, wherein the step of altering the density of a region is controlled as a function of time. The reference does not teach the method of the present claim 15, wherein the step of depositing thermal energy is controlled as a function of time wherein a desired height change is proportional to the duration of the step of depositing thermal energy. The reference does not teach the method of the present claim 16, wherein the step of altering the density of a region is controlled as a function of the intensity of energy deposited into said region. The reference does not teach the method of the present claim 17, wherein pixels comprise an abrupt spatial boundary. The reference does not teach the method of the present claim 18, wherein the abrupt spatial boundary comprises a geometric shape. The reference does not teach the method of the present claim 19, wherein pixels comprise a non-abrupt spatial boundary.

Further, claims 6, 8, 10 and 14-19 depend from claim 1, which should be allowable over Ruffner as discussed above.
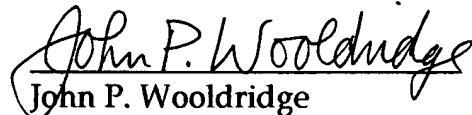
Therefore the rejection should be withdrawn.

Conclusions

It is submitted that this application is in condition for allowance based on claims 1-19 in view of the amendments thereto and the foregoing comments.

If any impediments remain to prompt allowance of the case, please contact the undersigned at 808-270-1011.

Respectfully submitted,

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